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CENTRAL VALLEY REGION

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WASTE DISCHARGE REQUIREMENTS ORDER R5-2020-####

ORDER INFORMATION

Order Type(s):	Waste Discharge Requirements (WDRs)
Status:	TENTATIVE
Program:	Non-15 Discharges to Land
Region 5 Office:	Fresno
Discharger(s):	Garlic Storage Company, LLC
Facility:	Shafter Garlic Processing Plant
Address:	18602 Zerker Road, Shafter, CA 93312
County:	Kern County
Prior Order(s):	R5-2013-0150

CERTIFICATION

I, PATRICK PULUPA, Executive Officer, hereby certify that the following is a full, true, and correct copy of the order adopted by the California Regional Water Quality Control Board, Central Valley Region, on _____ [Month] [Year].

PATRICK PULUPA,
Executive Officer

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GLOSSARY

Antidegradation Policy .....Statement of Policy with Respect to Maintaining High Quality Waters in California, State Water Board Resolution 68-16

Basin Plan.....Water Quality Control Plan for Tulare Lake Basin

bgs.....Below Ground Surface

$BOD_{[5]}$ .....[Five-Day] Biochemical Oxygen Demand at 20° Celsius

BPTC .....Best Practicable Treatment and Control

CEQA.....California Environmental Quality Act, Public Resources Code section 21000 et seq.

CEQA Guidelines.....California Code of Regulations, Title 14, section 15000 et seq.

C.F.R......Code of Federal Regulations

COC[s].....Constituent[s] of Concern

DDW.....State Water Resources Control Board, Division of Drinking water

DO.....Dissolved Oxygen

DTSC .....California Department of Toxic Substances Control

DWR.....California Department of Water Resources

EC .....Electrical Conductivity

EIR .....Environmental Impact Report

FDS .....Fixed Dissolved Solids

FEMA .....Federal Emergency Management Agency

IPP .....Industrial Pretreatment Program

LAA.....Land Application Area

lbs/ac/yr.....Pounds per Acre per Year

µg/L.....Micrograms per Liter

µmhos/cm .....Micromhos per Centimeter

MG[D] .....Million Gallons [per Day]

mg/L.....Milligrams per Liter

msl.....Mean Sea Level

MRP .....Monitoring and Reporting Program

MW.....Monitoring Well

MCL .....Maximum Contaminant Level per Title 22

mgd.....million gallons per day

MDB&M .....Mount Diablo Base and Meridian

mJ/cm^2 .....Millijoules per Square Centimeter

ORP .....Oxygen Reduction Potential

N.....Nitrogen

ND.....Non-Detect

NE.....Not Established

NM.....Not Monitored

Recycled Water Policy.....*Policy for Water Quality Control for Recycled Water*, State Water Board Resolution 2009-0011, as amended per Resolutions 2013-0003 and 2018-0057

R[O]WD .....Report of Waste Discharge

RCRA.....Resource Conservation and Recovery Act

SPRRs .....Standard Provisions and Reporting Requirements

SERC .....State Emergency Response Commission

TDS.....Total Dissolved Solids

Title 22.....California Code of Regulations, Title 22

Title 23.....California Code of Regulations, Title 23

Title 27.....California Code of Regulations, Title 27

TKN.....Total Kjeldahl Nitrogen

Unified Guidance.....Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance (USEPA, 2009)

USEPA.....United States Environmental Protection Agency

VOC[s].....Volatile Organic Compound[s]

WDRs.....Waste Discharge Requirements

WQO[s].....Water Quality Objective[s]

FINDINGS

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) hereby finds as follows:

Introduction

1. The Garlic Storage Company, LLC (Discharger) owns and operates the Shafter Garlic Processing Plant (Facility), which is in Shafter, California within Sections 14 and 23, T28S, R26E, MDB&M (35.4838°, -119.1461°). The Facility's location is depicted in **Attachment A** (Site Map) and **Attachment B** (Facility Map). The Land Application Area (LAA) is depicted in **Attachment A** and **Attachment C** (Land Application Map).

2. The Facility is comprised of the following Kern County Assessor Parcel Numbers (APNs): 091-130-22, 091-220-03, 091-220-04, and 091-220-05.

3. As the Facility's owner and operator, the Discharger is responsible for compliance with the Waste Discharge Requirements (WDRs) prescribed in this Order.

4. The following materials are attached and incorporated as part of this Order:

    a. Attachment A—Site Map

    b. Attachment B—Facility Map

    c. Attachment C—Land Application Map

    d. Attachment D—Process Flow Diagram

    e. Standard Provisions & Reporting Requirements dated 1 March 1991 (SPRRs)

    f. Information Sheet

5. Also attached is **Monitoring and Reporting Program R5-2020-####** (MRP), which requires monitoring and reporting for the discharge regulated under these WDRs.

Regulatory History

6. WDRs Order R5-2013-0150, adopted by the Central Valley Water Board on 6 December 2013, prescribed waste discharge requirements for the Facility to

discharge process wastewater to a 16.8-acre land application area (LAA). Order R5-2013-0150 authorized a monthly average discharge of 0.083 mgd (January through June) and 0.125 mgd (July through December), a maximum daily discharge of 0.180 mgd, and a total annual discharge of 25.5 million gallons (0.070 mgd average). On 7 February 2019 the Discharger submitted a RWD for a flow increase from 25.5 million gallons per year to 46.96 million gallons per year, the addition of the "99-acre" LAA, installation of a 1-million-gallon lined reservoir, and installation of a 50,000-gallon mixing tank. The WDRs for the Facility are being updated to ensure the discharge is consistent with water quality plans and policies and to reflect changes to the Facility. Order R5-2013-0150 will be rescinded and replaced with this Order.

Existing Facility and Discharge

7. The Discharger processes and packages fresh garlic, peeled garlic, garlic puree, garlic juice, and pickled garlic at the Facility. The existing Facility consists of a whole garlic processing facility, a garlic puree facility, cold storage unit, storm water pond, and a process wastewater treatment system (consisting of screens and an unlined aerated pond). Wastewater is generated from seven contact and three non-contact sources as listed in Table 1 below.

Table 1 – Wastewater Sources

Contact Waste Streams	Non-Contact Waste Streams
Whole Bulb Packing	Cold Storage
Seed Cracking	Boiler Blowdown
Peel Plant Cracking	Boiler Regenerate
Peel Plant Packing	
Diced/Puree Plant	
Pepper Process	
Cold Storage	

8. Currently, process wastewater is sent from the wastewater pump pit through primary filtration (0.015" screen) then to either the mud separation pit or the trash press. From the trash press, wastewater is conveyed to the cull truck fill station then to the cull/filtration area spillage collection pit where it is pumped back through the primary filtration screen. From the mud separation pit, wastewater flows to either the main pond for irrigation use or received secondary filtration (0.0059" screen) for use in the Point "A" cyclone cleaning system (a system utilizing screened wastewater to remove/control papery garlic skins). The majority of the existing process flow will be the same with the Facility upgrades,

except for the modifications/additions noted in Finding 15 below. The old and new process flow is depicted on the Process Flow Diagram in **Attachment D**.

9. An on-site septic system is located on the western side of the property. All domestic wastewater is managed separately from the process wastewater and delivered to the on-site septic system/leachfield system regulated by Kern County. A septic service pumps the septage from the tank on a semi-annual basis.

10. The February 2019 RWD originally proposed using three wells for source water (ratio of 98% Well-4, 1% Well-2, and 1% of Well-3). Well 4 collapsed during rehabilitation and was replaced by Well 5. DDW Permit Amendment 03-1297-PA-001, dated 22 January 2020, describes the addition of Well 5 and indicates source water for the Facility is now from two wells, Well 3 (located on the south side of the Facility) and Well 5 (located on the 99-acre LAA). Source water for the Facility is now 99% from Well-5 and 1% from Well-3. A 13 August 2019 Well 5 Source Water Quality Update Letter included the information provided in Table 2 below, which characterizes Wells 2, 3, and 5 as well as compares the previous source water quality (mixture of wells 2 and 3) and the new proposed source water quality (mixture of Wells 3 and 5). As shown in Table 2, the Facility's source water quality is expected to significantly improve, specifically with regards to salinity, with the addition of Well 5.

Table 2 - Source Water Characterization

Constituent	Units	Well-2	Well-3	Well-5 (New Well)	Flow-Weighted Average (Wells 2 & 3)	Flow-Weighted Average (Wells 3 & 5)
pH	S.U.	7.1	7.5	7.6	7.2	7.6
EC	µmhos/cm	2,411	2,256	1,280	2,357	1,301
Nitrate (as N)	mg/L	1.2	10.6	0.6	4.5	0.7
Total Nitrogen	mg/L	--	--	0.6	--	0.6
TDS	mg/L	1,675	1,600	780	1,649	797
Total Hardness	mg/L CaCO3	480	438	210	465	215
Calcium	mg/L	190	173	84	184	86
Sodium	mg/L	353	350	170	352	174
Potassium	mg/L	2.6	3.1	1.9	2.8	2
Chloride	mg/L	390	303	130	359	134
Sulfate	mg/L	695	720	350	704	357

Constituent	Units	Well-2	Well-3	Well-5 (New Well)	Flow-Weighted Average (Wells 2 & 3)	Flow-Weighted Average (Wells 3 & 5)
Bicarbonate	mg/L CaCO3	9.9	22	62	14	61
Total Alkalinity	mg/L CaCO3	9.9	22	51	14	50

11. Table 3 below shows the current and projected process wastewater quality for the Facility's discharge. The projected wastewater quality assumes the Facility will be using better quality source water from Well 5 (located at the 99-acre LAA), which should result in lower salinity concentrations. "Current" process wastewater is the annual average of 2016 sampling events. "Projected" process wastewater represents projected source water quality plus processing additions.

Table 3 - Current and Projected Effluent Quality

Constituent	Units	Current	Projected
pH	s.u.	7.1	7.5
EC	µmhos/cm	2,952	1,896
Nitrate (as N)	mg/L	<1.7	<1
Total N	mg/L	38	34
TDS	mg/L	1,983	1,132
FDS	mg/L	1,725	≈ 1,121 (See 1 below)
BOD	mg/L	351	351
Calcium	mg/L	190	92
Chloride	mg/L	420	195

[1] FDS was not sampled for Well 5. Based on the TDS and EC values reported for Well 5, FDS is estimated to be around 1,121 mg/L (35% reduction).

12. WDRs Order R5-2013-0150 included a 12-month rolling average EC limit stating the discharge shall not exceed the 12-month flow-weighted average EC of the source water plus 600 µmhos/cm, determined on a monthly basis. Table 4 below shows the 12-month rolling average source water EC, process wastewater EC, and EC net increase from October 2018 through September 2019. The net increase in EC ranged from 219 µmhos/cm to 309 µmhos/cm.

Table 4 – Source Water and Effluent EC (12-Month Rolling Average)

Date	Source Water EC (µmhos/cm)	Process Wastewater EC (µmhos/cm)	Increase in EC (µmhos/cm)
Oct-18	2,431	2,714	283
Nov-18	2,443	2,731	288
Dec-18	2,425	2,696	271
Jan-19	2,476	2,695	219
Feb-19	2,492	2,723	231
Mar-19	2,488	2,707	219
Apr-19	2,444	2,723	279
May-19	2,446	2,745	299
Jun-19	2,452	2,748	296
Jul-19	2,459	2,750	291
Aug-19	2,461	2,761	300
Sep-19	2,454	2,763	309

13. The February 2019 RWD projects that the future monthly flow rate will increase to approximately 4 million gallons per month (173,913 gpd) for an annual flow of approximately 46.96 million gallons. The proposed future flow increase is to accommodate future growth at the Facility. Table 5 below shows the projected daily and monthly flow compared to 2018 process wastewater flow.

Table 5 - Projected Daily and Monthly Flow

Month	2018 Daily Discharge	Projected Maximum Daily Average Flow	Projected Monthly Discharge	Average Operating Days
January	86,679	173,913	4,000,000	23
February	74,551	173,913	3,652,174	21
March	74,714	173,913	4,000,000	23
April	88,326	173,913	3,826,087	22
May	93,614	173,913	4,000,000	23
June	59,067	173,913	3,826,087	22
July	68,234	173,913	4,000,000	23
August	87,021	173,913	4,000,000	23
September	82,732	173,913	3,826,087	22
October	115,307	173,913	4,000,000	23
November	112,722	173,913	3,826,087	22
December	84,135	173,913	4,000,000	23

Changes to Facility

14. As discussed above the RWD proposes the addition of the new 99-acre LAA, construction of a 1-million-gallon lined reservoir, installation of a 50,000-gallon mixing tank, and installation of a new source water well (already completed).

15. During a 15 January 2020 inspection, Central Valley Water Board staff observed that the Discharger had constructed the proposed 1-million-gallon reservoir lined with a 60-mil polypropylene liner. According to the Discharger, the aerators from the existing main pond will be used in the new lined reservoir. The Discharger plans on abandoning and backfilling the main pond to allow for future Facility expansion once the new lined reservoir is online. The Discharger submitted a Pond Abandonment Plan on 24 May 2019.

Land Application Area (LAA)

16. The LAA mentioned above, referred to as the 99-acre LAA, consists of 95.2 acres, which is bisected by the Friant-Kern canal on its northern half. The northern parcel consists of 15.2 acres of LAA while the southern parcel consists of 80 acres of LAA. The 99-acre LAA is irrigated via sprinkler irrigation. The current projected path of the High-Speed Rail (HSR) runs through the 99-acre LAA and will remove approximately 12 acres from the southern parcel if constructed as planned (reducing the LAA to approximately 83.2 acres).

17. A nitrogen balance was submitted as part of the RWD. The nitrogen balance indicates the LAA will be planted with a wheat–sudangrass rotation or alfalfa. The RWD estimated the crop uptake for the wheat-sudangrass rotation is 270 lbs/acre/year and 520 lbs/acre/year for alfalfa. The nitrogen balance takes current and future flows rates into consideration and includes a nitrogen balance using 35 acres and 62 acres for land application. Projected annual LAA loading rates using 35, 62, and 83.2 acres of LAA are provided in Table 6 below.

Table 6 - Projected Annual LAA Loading Rates

Acres	Flow (MG)	Total N (lbs/ac/year)	FDS (lbs/ac/year)
35	31.87	258	8,513
62	46.97	215	7,083
83.2	46.97	160	5,278

18. The FDS loading calculations in Table 6 above were calculated using an assumed FDS concentration based on the estimated TDS and EC reductions

using Well-5 as the main source water for the Facility. The RWD does not propose to initiate any salinity reduction measures other than using better quality source water. This Order includes a Provision requiring submittal of a Salinity Reduction Study Work Plan (Provision H.4).

19. Based on the information presented in the February 2019 RWD, proposed BOD loading rates appear to be low. The average BOD loading for the 35-acre scenario would result in 7.3 pounds per acre per day at the current flow rate, 6.1 pounds per acre per day at the future flow rate using 62 acres, and 4.5 pounds per acre per day using 83.2 acres.

20. Solids (garlic residues and scraps) produced by the Facility are collected from the stationary and rotary process wastewater screens and are used as cattle feed or as a soil amendment. Solids are currently sold to Resources Buyers, which in turn sells the product to various dairies. The February 2019 RWD proposes to continue this practice.

21. The RWD indicates that stormwater from the Facility collects in the stormwater pond located in the southeast corner of the Facility and will be pumped to the new lined reservoir and discharged to the LAA.

Site-Specific Conditions

22. Soil in the vicinity of the LAA is Driver and Wasco sandy loam according the United States Department of Agriculture, Natural Resources Conservation Service soil survey maps. These soils are described as nonsaline, relatively shallow to very deep, well drained, and moderately rapidly permeable. The land capability classification for these soils for irrigation is II-s, which has little or no restrictions on cultivation.

23. The climate is arid, with hot summers and mild winters. The rainy season generally extends from November through March. Occasional rains occur during the spring and fall months, but summer months are dry. The climate is arid, with hot summers and mild winters. The rainy season generally extends from November through March. Occasional rains occur during the spring and fall months, but summer months are dry.

24. Average annual precipitation and evaporation (Class “A” pan) in the area are about 6.0 inches and 64.8 inches, respectively, according to information published by the California Department of Water Resources (DWR). The California Irrigation Management Information System (CIMIS) database reports an annual average potential evapotranspiration of 57 inches for Shafter. The

water balance included in the RWD references a 100-year return period precipitation of 13.6 inches.

25. According to National Oceanic and Atmospheric Administration (NOAA) Precipitation Frequency Atlas 14, Vol. 6 (rev. 2014), 100-year and 1,000-year, 24-hour rainfall events are estimated to result in 2.96 and 4.64 inches of precipitation, respectively.[1]

26. According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (https://msc.fema.gov/portal), the Facility is not located within a 100-year floodplain.

27. The DWR Land Use Viewer mapping application shows that land in the vicinity of the LAA is used to grow grapes, almonds, and grain and hay crops.

Groundwater Conditions

28. According to the California DWD Groundwater Information Center Interactive Map Application (https://gis.water.ca.gov/app/bbat/), depth to groundwater in the vicinity of the Facility is approximately 420 feet below ground surface (bgs) while groundwater underlying the 99-acre LAA is approximately 340 feet bgs. Regional groundwater flow in the area is generally to the northwest.

29. Regional groundwater quality data can be found on the Water Quality Portal website (https://www.waterqualitydata.us/portal/), a cooperative service provided by the United State Geological Survey (USGS), the Environmental Protection Agency, and the National Water Quality Monitoring Council. A search of the Water Quality Portal found six wells within two miles of the facility, Table 7 below provides an average and range for select groundwater constituents from these wells.

Table 7 - Regional Groundwater Quality

Constituent/Parameter	Units	Range	Average
pH	S.U.	7.5-7.8	7.62
Nitrate as N	mg/L	2.12-17.8	10.5
Chloride	mg/L	88-480	281.6
Sodium	mg/L	72-370	184.4
EC	µmhos/cm	484-2,960	1,752

[1] Source: NOAA Precipitation Frequency Data Server (https://hdsc.nws.noaa.gov/hdsc/pfds)

Constituent/Parameter	Units	Range	Average
Sulfate	mg/L	22-750	278.4
TDS	mg/L	264-1,980	988.2

Legal Authorities

30. This Order is adopted pursuant to Water Code section 13263, subdivision (a), which provides in pertinent part as follows:

> *The regional board, after any necessary hearing, shall prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge…, with relation to the conditions existing in the disposal area or receiving waters upon, or into which, the discharge is made or proposed. The requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonable required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241.*

31. Compliance with section 13263, subdivision (a), including implementation of applicable water quality control plans, is discussed in the findings below.

32. The ability to discharge waste is a privilege, not a right, and adoption of this Order shall not be construed as creating a vested right to continue discharging waste. (Wat. Code, § 13263, subd. (g).)

33. This Order and its associated Monitoring and Reporting Program (MRP) are also adopted pursuant to Water Code section 13267, subdivision (b)(1), which provides as follows:

> [T]*he regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste … shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.*

34. The reports required under this Order, as well as under the separately issued MRP, are necessary to verify and ensure compliance with WDRs. The burden associated with such reports is reasonable relative to the need for their submission.

Basin Plan Implementation

35. Pursuant to Water Code section 13263, subdivision (a), WDRs must "implement any relevant water quality control plans…, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241."

36. This Order implements the Central Valley Water Board's Water Quality Control Plan for the Tulare Lake Basin (Basin Plan), which designates beneficial uses for surface water and groundwater and establishes water quality objectives (WQOs) necessary to preserve such beneficial uses. (See Wat. Code, § 13241 et seq.)

37. The discharge is to cropland and any surface drainage would be to Valley Floor Waters. The beneficial uses of Valley Floor Waters within the subject hydrologic area (North Kern Hydrologic Area No. 558.80) include the following: agricultural supply (AGR); industrial service supply (IND); industrial process supply (PRO); water contact recreation (REC-1); non-water contact recreation (REC-2); warm freshwater habitat (WARM); wildlife habitat (WILD); groundwater recharge (GWR); and preservation and enhancement of rare, threatened, and endangered species (RARE).

38. Per the Basin Plan, beneficial uses of underlying groundwater at the Facility and LAA are as follows: municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); industrial process supply (PRO); water contact recreation (REC-1), and wildlife habitat (WILD).

39. The Basin Plan establishes narrative WQO's for chemical constituents, taste and odors, and toxicity in groundwater. The toxicity objective, in summary, requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plan, animal, or aquatic life associated with designated beneficial uses.

40. The Basin Plan's narrative WQO's for chemical constituents require MUN-designated water to at least meet the MCLs specified in California Code of Regulations, title 22 (Title 22). The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do

not contain chemical constituents in concentrations that adversely affect beneficial uses.

41. The narrative WQO for toxicity provides that groundwater shall be maintained free of toxic substances in concentrations producing detrimental physiological responses in human, animal, plant or aquatic life associated with designated beneficial uses.

42. Quantifying a narrative WQO requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses. The Basin Plan states that when compliance with a narrative objective is required to protect specific beneficial uses, the Central Valley Water Board will, on a case-by-case basis, adopt numerical limitations to implement the narrative objective.

43. In the absence of specific numerical water quality limits, the Basin Plan methodology is to consider any relevant published criteria. General salt tolerance guidelines, such as *Water Quality of Agriculture* by Ayers and Westcot and similar references indicate that yield reductions in nearly all crops are not evident when irrigation water has an electrical conductivity (EC) of less than 700 µmhos/cm. There is, however, an eight- to ten-fold range in salt tolerance for agricultural crops and the appropriate salinity values to protect agriculture in the Central Valley are considered on a case-by-case basis. It is possible to achieve full yield potential with groundwater EC up to 3,000 µmhos/cm, if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop.

Salt and Nitrate Control Programs Reopener

44. The Central Valley Water Board adopted Basin Plan amendments incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting. The Basin Plan Amendments were conditionally approved by the State Water Board on 16 October 2019 and the Office of Administrative Law on 15 January 2020.

45. For nitrate, dischargers that are unable to comply with stringent nitrate requirements will be required to take on alternate compliance approaches that involve providing replacement drinking water to persons whose drinking water is affected by nitrates. Dischargers could comply with the new nitrate program either individually or collectively with other dischargers. For salinity, dischargers that are unable to comply with stringent salinity requirements would instead need to meet performance-based requirements and participate in a basin-wide effort to

develop a long-term salinity strategy for the Central Valley. As these strategies are implemented, the Central Valley Water Board may find it necessary to modify the requirements of these WDRs to ensure the goals of the Salt and Nitrate Control Programs are met.

46. Pursuant to the Basin Plan amendments, the Discharger will receive a Notice to Comply with instructions and obligations for the Salt Control Program within one year of the effective date of the amendments (17 January 2020). Upon receipt of the Notice to Comply, the Discharger will have no more than six months to inform the Central Valley Water Board of their choice between Option 1 (Conservative Option for Salt Permitting) or Option 2 (Alternative Option for Salt Permitting). For the Nitrate Control Program, the Facility falls within Groundwater Sub-Basin 5-22.14 (Kern County Poso), a Priority 2 Basin. Notices to Comply for Priority 2 Basins will be issued within two to four years after the effective date of the Nitrate Control Program.

Special Considerations for High Strength Waste

47. For the purpose of this Order, “high strength waste” is defined as wastewater that contains concentrations of readily degradable organic matter that exceed typical concentrations for domestic sewage. Such wastes contain greater than 500 mg/L BOD. Typical high strength wastewaters include septage, some food processing wastes, winery wastes, and rendering plant wastes.

48. Excessive application of high organic strength wastewater to land can create objectionable odors, soil conditions that are harmful to crops, and degradation of underlying groundwater with nitrogen species and metals, as discussed below. Such groundwater degradation can be prevented or minimized through implementation of best management practices, which include planting crops to take up plant nutrients and maximizing oxidation of BOD_5 to prevent nuisance conditions.

49. Regarding BOD, excessive application can deplete oxygen in the vadose zone and lead to anoxic conditions. At the ground surface, this can result in nuisance odors and fly breeding. When insufficient oxygen is present below the ground surface, anaerobic decay of the organic matter can create reducing conditions that convert metals that are naturally present in the soil as relatively insoluble (oxidized) forms to more soluble reduced forms. This condition can be exacerbated by acidic soils and/or acidic wastewater. If the reducing conditions do not reverse as the percolate travels down through the vadose zone, these dissolved metals (primarily iron, manganese, and arsenic) can degrade shallow groundwater quality. Many aquifers contain enough dissolved oxygen to reverse

the process, but excessive BOD loading over extended periods may cause beneficial use impacts associated with these metals.

50. Typically, irrigation with high strength wastewater results in high loading on the day of application. It is reasonable to expect some oxidation of BOD at the ground surface, within the evapotranspiration zone and below the root zone within the vadose (unsaturated) zone. The maximum BOD loading rate that can be applied to land without creating nuisance conditions or leaching of metals can vary significantly depending on soil conditions and operation of the land application system.

51. *Pollution Abatement in the Fruit and Vegetable Industry*, published by the United States Environmental Protection Agency, cites BOD_5 loading rates in the range of 36 to 600 lbs/acre-day to prevent nuisance, but indicates the loading rates can be even higher under certain conditions. The studies that supported this report did not evaluate actual or potential groundwater degradation associated with those rates. There are few studies that have attempted to determine maximum BOD_5 loading rates for protection of groundwater quality. Those that have been done are not readily adapted to the varying soil, groundwater, and climate conditions that are prevalent throughout the region.

52. The California League of Food Processors' *Manual of Good Practice for Land Application of Food Processing/Rinse Water* (Manual of Good Practice) proposes risk categories associated with particular BOD_5 loading rate ranges as follows:

    a. Risk Category 1: (less than 50 lbs/ac/day; depth to groundwater greater than 5 feet) Indistinguishable from good farming operations with good distribution important.

    b. Risk Category 2: (less than 100 lbs/ac/day; depth to groundwater greater than 5 feet). Minimal risk of unreasonable groundwater degradation with good distribution more important.

    c. Risk Category 3: (greater than 100 lbs/ac/day; depth to groundwater greater than 2 feet) Requires detailed planning and good operation with good distribution very important to prevent unreasonable degradation, as well as use of oxygen transfer design equations that consider site-specific application cycles and soil properties and special monitoring.

    The *Manual of Good Practice* recommends allowing a 50 percent increase in the BOD_5 loading rates in cases where sprinkler irrigation is used, but recommends that additional safety factors be used for sites with heavy and/or compacted soils.

53. Although it has not been subject to a scientific peer review process, the *Manual of Good Practice* provides science-based guidance for BOD_5 loading rates that, if fully implemented, are considered a best management practice to prevent groundwater degradation due to reduced metals. This Order sets an irrigation cycle average BOD loading limit of 50 lbs/acre/day to the LAA and limits the instantaneous BOD load to 150 lbs/acre/day.

Compliance with Antidegradation Policy

54. The *Statement of Policy with Respect to Maintaining High Quality Waters in California*, State Water Board Resolution 68-16 (Antidegradation Policy), which is incorporated as part of the Basin Plan, prohibits the Central Valley Water Board from authorizing degradation of "high quality waters" unless it is shown that such degradation: (1) will be consistent with the maximum benefit to the people of California; (2) will not unreasonably affect beneficial uses, or otherwise result in water quality less than as prescribed in applicable policies; and (3) is minimized through the discharger's best practicable treatment or control (BPTC).

55. Given the unavailability of pre-1968 water quality information, compliance with the Antidegradation Policy will determined based on existing background water quality (Antidegradation Baseline).

56. Effluent will be blended with source water for use as irrigation water in the 50,000-gallon blending tank. Prior to blending effluent will be stored in the lined reservoir. Table 8 below shows the anticipated blended effluent concentration alongside regional groundwater quality (as discussed in Finding 29, Table 7).

Table 8 - Treated Effluent and Groundwater

Constituent	Units	Treated Effluent (Blended)	Regional Groundwater
pH	S.U.	7.5	7.62
Nitrate as N	mg/L	<1	10.5
Total Nitrogen	mg/L	34	Not Reported
Chloride	mg/L	195	281.6
Sodium	mg/L	342	184.4
EC	µmhos/cm	1,896	1,752
Sulfate	mg/L	213	278.4
TDS	mg/L	1,132	988.2

57. Constituents of concern (COCs) that have the potential to degrade groundwater include nutrients and salts. Effluent concentrations (existing and projected) are

summarized in Finding 11, Table 3. Nutrient and salt loading rates are summarized in Finding 17, Table 6.

a. **Nitrate (as Nitrogen).** The projected annual total nitrogen loading rates range from 215 lbs/ac/year to 258 lbs/ac/year. The Discharger include a nutrient balance as part of its February 2019 RWD, which identifies the LAA crop as either a wheat-sudangrass rotation or alfalfa. The RWD estimated the crop uptake for the wheat-sudangrass rotation is 270 lbs/acre/year and 520 lbs/acre/year for alfalfa. Therefore, the proposed nitrogen loadings do not appear to exceed the proposed crop uptakes. This Order includes a Land Application Area Specification requiring the Discharger to apply wastewater at agronomic rates, specifically stating that the annual nutritive loading of the LAA, including nutritive value of organic and chemical fertilizers, and the wastewater, shall not exceed the annual crop demand. Furthermore, the Discharger has recently lined the Facility's wastewater storage pond, mitigating the potential for the discharge to impact underlying groundwater.

b. **Salinity.** For salinity, this Order carries over the 12-month rolling average EC limit requiring the discharge to not exceed the 12-month flow-weighted average EC of the source water plus 600 µmhos/cm. Table 2 (Finding 10) above shows that source water EC will be reduced from 2,357 µmhos/cm to approximately 1,300 µmhos/cm using the new source water well. Table 4 (Finding 12) shows the 12-month rolling average source water EC, process wastewater EC, and EC net increase from October 2018 through September 2019. The net increase in EC ranged from 219 µmhos/cm to 309 µmhos/cm. Furthermore, this Order includes a provision requiring the Discharger to develop and implement a Salinity Reduction Study Work Plan to identify and address sources of salinity to and from the Facility.

58. The Discharger implements, or will implement, as required by this Order, the following BPTC measures:

a. Water conservation measures (i.e., recirculating flume) that results in a lower mass discharge of salt;

b. Mechanical solids removal (wastewater screening);

c. Lining the wastewater reservoir with a geosynthetic membrane liner;

d. Aeration in the lined reservoir;

e. Organic loading rates consistent with EPA recommendations and unlikely to cause unacceptable groundwater degradation;

f. A performance-based EC limit of 600 µmhos/cm plus source water;

g. Application of nutrients at agronomic rates;

h. Preparation and implementation of a Salinity Reduction Study Work Plan, and

i. Complying with the Salt and Nitrate Control Programs

59. The Discharger's implementation of the above-listed BPTC measures will minimize the extent of water quality degradation resulting from the Facility's continued operation.

60. Economic prosperity of valley communities and associated industry is of maximum benefit to the people of the state and, therefore, sufficient reason exists to accommodate growth and limited groundwater degradation around the Facility, provided that the terms of the Basin Plan are met. Degradation of groundwater by some typical waste constituents released with discharge from the Facility after effective source reduction, treatment and control, and considering the best efforts of the Discharger and magnitude of degradation, is of maximum benefit to the people of the state. The Facility contributes to the economic prosperity of the region by providing employment; by providing incomes for numerous aligned businesses; and by providing a tax base for local and county governments. Economic prosperity of Valley communities and associated industries is of maximum benefit to the people of the state and, therefore, sufficient reason to accommodate growth and limited groundwater degradation provided terms of the Basin Plan are met. Accordingly, to the extent that any degradation occurs as the result of the Facility's continued operation, such degradation is consistent with the maximum interest of the people of the State of California.

61. Based on the foregoing, the adoption of this Order is consistent with the State Water Board's Antidegradation Policy.

California Environmental Quality Act

62. In accordance with the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq., on 7 October 2014, the City of Shafter adopted a Negative Declaration. In the Negative Declaration, the City of Shafter

found that the "project," which includes the following pertinent elements, would not have a significant effect on the environment:

a. New 99-Acre LAA;

b. Construction a 1.5 million gallon balancing reservoir at the 99-acre LAA; and

c. Pipeline to LAA via Zerker Road right of way.

63. In accordance with Section 15164(b) of the State CEQA guidelines, the City of Shafter, on 7 May 2019, approved an addendum to the Negative Declaration which included, in part, the following changes:

a. Moving the originally proposed 1.5-million-gallon balancing reservoir within Facility boundaries (instead of at the LAA) and reducing its size to 1 million gallons and equipping the reservoir with a geosynthetic liner,

b. Construction of a 50,000-gallon mixing tank at the 99-Acre LAA,

c. Construction of an 8,200 foot 6-inch diameter pipe from the new lined balancing reservoir to the new 50,000-gallon mixing tank, and

d. Construction of an 8,200 foot 6-inch diameter pipe from Well 5 to an existing 240,670-gallon freshwater tank at the Facility.

64. The Central Valley Water Board, as a "responsible agency" under CEQA, was consulted in the lead agency's development of the Negative Declaration and addendum to the Negative Declaration. The discharges and other activities authorized under this Order also fall within the scope of the proposed project (as contemplated in the Negative Declaration and addendum). Additionally, there are no substantial changes to either the proposed project or the attendant circumstances under which the proposed project will be undertaken, and no new information requiring revision of the Negative Declaration or addendum. The Negative Declaration is therefore conclusively presumed compliant with CEQA for use by the Central Valley Water Board as a "responsible agency" under CEQA. (See Cal. Code Regs., tit. 14, § 15162.) Accordingly, no further environmental review is required under CEQA.

Other Regulatory Considerations

65. Pursuant to Water Code section 106.3, subdivision (a), it is "the established policy of the state that every human being has the right to safe, clean, affordable,

and accessible water adequate for human consumption, cooking, and sanitary purposes." Although this Order is not subject to Water Code section 106.3, as it does not revise, adopt or establish a policy, regulation or grant criterion, (see § 106.3, subd. (b)), it nevertheless promotes the policy by requiring discharges to meet maximum contaminant levels (MCLs) for drinking water, which are designed to protect human health and ensure that water is safe for domestic use.

66. For the purposes of California Code of Regulations, title 23 (Title 23), section 2200, the Facility has a threat-complexity rating of 2-B.

    a. Threat Category "2" reflects waste discharges that can impair receiving water beneficial uses, cause short-term water quality objective violations, cause secondary drinking water standard violations, and cause nuisances.

    b. Complexity Category "B" reflects any discharger not included in Category A, with either (1) physical, chemical or biological treatment systems (except for septic systems with subsurface disposal), or (2) any Class II or Class III WMUs.

67. This Order, which prescribes WDRs for discharges of wastewater, is exempt from the prescriptive requirements of California Code of Regulations, title 27 (Title 27), section 20005 et seq. (See Cal. Code Regs., tit. 27, § 20090, subd. (b).)

68. Because all storm water at the Facility is collected and disposed on the LAA, the Discharger is not be required to obtain coverage under the *Statewide General Permit for Storm Water Discharges Associated with Industrial Activities,* State Water Board Order 2014-0057-DWQ, NPDES Permit No. CAS000001 (Industrial General Permit) at this time.

Scope of Order

69. This Order is strictly limited in scope to those waste discharges, activities and processes described and expressly authorized herein.

70. Pursuant to Water Code section 13264, subdivision (a), the Discharger is prohibited from initiating the discharge of new wastes (i.e., other than those described herein), or making material changes to the character, volume and timing of waste discharges authorized herein, without filing a new Report of Waste Discharge (RWD) per Water Code section 13260.

71. Failure to file a new RWD before initiating material changes to the character, volume or timing of discharges authorized herein, shall constitute an independent violation of these WDRs.

72. This Order is also strictly limited in applicability to those individuals and/or entities specifically designated herein as "Discharger," subject only to the discretion to designate or substitute new parties in accordance with this Order.

Procedural Matters

73. All of the above information, as well as the information contained in the attached Information Sheet (incorporated herein), was considered by the Central Valley Water Board in prescribing the WDRs set forth below.

74. The Discharger, interested agencies and other interested persons were notified of the Central Valley Water Board's intent to prescribe the WDRs in this Order, and provided an opportunity to submit their written views and recommendations at a public hearing. (See Wat. Code, § 13167.5.)

75. At a public meeting, the Central Valley Water Board heard and considered all comments pertaining to the discharges regulated under this Order.

76. The Central Valley Water Board will review and revise the WDRs in this Order as necessary.

REQUIREMENTS

IT IS HEREBY ORDERED, pursuant to Water Code sections 13263 and 13267, that Order R5-2013-0150 is rescinded (except for enforcement purposes); and that the Discharger and their agents, employees and successors shall comply with the following:

A. Discharge Prohibitions

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.

2. Discharge of waste classified as 'hazardous', as defined in the California Code of Regulations, title 22, section 66261.1 et seq., is prohibited.

3. Treatment system bypass of untreated or partially treated waste is prohibited, except as allowed by Standard Provision E.2 of the Standard Provisions and Reporting Requirements for WDRs, 1 March 1991 ed. (SPRRs), which are incorporated herein.

4. Discharge of waste at a location or in a manner different from that described in the Findings herein is prohibited.

5. Discharge of toxic substances into any wastewater treatment system or the disposal field such that biological treatment mechanisms are disrupted is prohibited.

6. Discharge of domestic wastewater to the process wastewater treatment system, lined reservoir, and/or the LAA is prohibited.

7. Discharge of industrial wastewater to septic systems is prohibited.

B. Effluent Limitations

1. The 12-month rolling average EC of the discharge (monitored at EFF-001) shall not exceed the 12-month flow weighted average EC of the source water plus 600 µmhos/cm. Compliance with this effluent limitation shall be determined monthly.

C. Flow Limitations

1. The wastewater discharge to the LAA shall not exceed the following (monitored at EFF-001):

   a. A monthly average daily flow of 218,000 gallons per day, and

   b. An annual flow of 46.96 million gallons.

D. Discharge Specifications

1. No waste constituent shall be released, discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations of this Order.

2. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.

3. The Discharger shall operate all systems and equipment to optimize the quality of the discharger.

4. The discharge shall remain within the permitted wastewater pond, conveyance structures, and the LAA at all times.

5. All conveyance, treatment, storage, and disposal systems shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

6. Objectionable odors shall not be perceivable beyond the limits of the wastewater pond (reservoir) or the LAA at an intensity that creates or threaten to create nuisance conditions.

7. As a means of ensuring compliance with Discharge Specification D.6, the dissolved oxygen (DO) content in the upper one foot of any wastewater treatment or storage pond shall not be less than 1.0 mg/L for three consecutive sampling events. Notwithstanding the DO monitoring frequency specified in the monitoring and reporting program, if the DO in any single pond is below 1.0 mg/L for any single sampling event, the Discharger shall implement daily DO monitoring of that pond until the minimum DO concentration is achieved for at least three consecutive days. If the DO in any single pond is below 1.0 mg/L for three consecutive days, the Discharger shall report the findings to the Central Valley Water Board in accordance with Section B.1 of the SPRRs. The written notification shall include a specific plan to resolve the low DO results within 30 days of the first date of violation.

8. The discharge of process wastewater shall be distributed uniformly on adequate acreage in compliance with the Discharger Specifications.

9. The pond and open containment structures shall be managed to prevent breeding of mosquitos or other vectors. Specifically

    a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.

    b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.

    c. Dead algae, vegetation, and debris shall not accumulate on the water surface.

    d. The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.

10. The Discharger shall design, construct, operate, and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. The operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge or other suitable

measurement device with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.

11. Wastewater treatment, storage, and disposal ponds or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring continuous compliance with all requirements of this Order. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

12. On or about 1 October of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications D.10 and D.11.

13. The Discharger shall monitor sludge accumulation in the wastewater treatment/storage ponds annually and shall periodically remove sludge as necessary to maintain adequate storage capacity. Specifically, if the estimated volume of sludge in the reservoir exceeds five percent of the permitted reservoir capacity, the Discharger shall complete sludge cleanout within 12 months after the date of the estimate.

14. Wastewater contained in any unlined pond shall not have a pH less than 6.0 or greater than 9.0.

E. Groundwater Limitations

1. Release of waste constituents from any treatment unit, storage unit, delivery system or disposal location associated with the Facility shall not cause or contribute to groundwater containing constituent concentrations in excess of the concentrations specified below or in excess of natural background quality, whichever is greater.

    a. Nitrate as nitrogen of 10 mg/L.

    b. For constituents identified in Title 22 of the California Code of Regulations, the MCLs quantified therein.

F. Land Application Area Specifications

1. For the purposes of this Order, “land application area” (LAA) refers to the discharge area described in Finding 16 and shown in Attachment C.

2. Crops shall be grown in the LAA. Crops shall be selected based on nutrient uptake, consumptive use of water, and irrigation requirements to maximize uptake of nutrients.

3. Application of waste constituents to the LAA shall be at reasonable agronomic rates to preclude creation of a nuisance or unreasonable degradation of groundwater, considering crop, soil, climate and irrigation management system. The annual nutritive loading of the LAA, including nutritive value of organic and chemical fertilizers, and the wastewater, shall not exceed the annual crop demand.

4. Hydraulic loading of wastewater an irrigation water shall be at reasonable agronomic rates designed to minimize the percolation of wastewater and irrigation water below the root zone (i.e., deep percolation).

5. The BOD loading to the LAA calculated as a cycle average and as instantaneous load, as determined by the methods described in the attached Monitoring and Reporting Program, shall not exceed 50 pounds per acre per day (lbs/acre/day) and 150 lbs/acre/day, respectively.

6. The resulting effect of the discharge on soil pH shall not exceed the buffering capacity of the soil profile.

7. Land application of wastewater shall be managed to minimize erosion.

8. The Discharger shall not discharge process wastewater to the LAA when soils are saturated (e.g., during or after significant precipitation).

9. Any irrigation runoff shall be confined to the LAA and shall not enter any surface water drainage course or storm water drainage system.

10. Discharger of process wastewater to any land not having a fully functional tailwater/runoff control system is prohibited.

11. The LAA shall be managed to prevent breeding of mosquitos. More specifically:

    a. All applied irrigation water must infiltrate completely within 48-hours;

    b. Ditches not serving as wildlife habitat shall be maintained free of emergent marginal, and floating vegetation; and

    c. Low-pressure and unpressurized pipeline and ditches accessible to mosquitos shall not be used to store process wastewater.

G. Solids Disposal Specifications

1. For the purpose of this Order, sludge includes the solid, semisolid, and liquid organic matter removed from wastewater treatment system. Solid waste refers to solid inorganic matter removed by screens and soil sediments from washing of unprocessed fruit or vegetables. Except for waste solids originating from meat processing, residual solids means organic food processing byproducts such as culls, pulp, stems, leaves, and seeds that will not be subject to treatment prior to disposal or land application.

2. Residual solids shall be removed from screens, sumps, and ponds as needed to ensure optimal operation, prevent nuisance conditions, and maintain adequate storage capacity.

3. Any handling and storage of residual solids shall be controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order.

4. If removed from the site, residual solids shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27, division 2. Removal for reuse as animal feed, or land disposal at facilities (i.e., landfills, composting facilities, soil amendment sites operated in accordance with valid waste discharge requirements issued by a Regional Water Board) will satisfy this specification.

5. Any proposed change in residual solids use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

H. Provisions

1. The Discharger shall comply with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991 (SPRRs), which are a part of this Order. This attachment and its individual paragraphs are referred to as Standard Provisions.

2. The Discharger shall comply with the separately issued **Monitoring and Reporting Program (MRP) R5-2020-XXXX**, and any revisions thereto as ordered by the Executive Officer. The submittal dates of Discharger self-monitoring reports shall be no later than the submittal date specified in the MRP.

3. A copy of this Order (including Information Sheet, Attachments and SPRRs) and the MRP, shall be kept at the Facility for reference by operating personnel. Key operating personnel shall be familiar with their contents.

4. By **<6 months from adoption of the Order>**, the Discharger shall submit a **Salinity Reduction Study Work Plan** for Executive Officer approval. At a minimum, the Salinity Reduction Study Work Plan must include:

   a. Data on current and effluent salinity concentrations;

   b. Identification of known salinity sources;

   c. Description of current plans to reduce/eliminate known salinity sources;

   d. Preliminary identification of other potential sources;

   e. A proposed schedule for evaluating sources; and

   f. A proposed schedule for identifying and evaluating potential reduction, elimination, and prevention methods.

   Implementation progress of the Salinity Reduction Work Plan shall be reported each year in the Annual Monitoring Report required pursuant to Monitoring and Reporting Program R5-2020-XXXX.

5. A discharger whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment, collection, and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the discharger shall notify the Central Valley Water Board by 31 January.

6. In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if

not explicitly stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.

7. The Discharger shall submit the technical reports and work plans required by this Order for consideration by the Executive Officer, and incorporate comments the Executive Officer may have in a timely manner, as appropriate. Unless expressly stated otherwise in this Order, the Discharger shall proceed with all work required by the foregoing provisions by the due dates specified.

8. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Discharger shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

9. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.

10. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.

11. The Discharger shall comply with the Basin Plan amendments adopted in Resolution R5-2018-0034 incorporating new programs (Salt and Nitrate Control Program) for addressing ongoing salt and nitrate accumulation in the Central Valley developed as part of the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative.

12. Per the SPRRs, the Discharger shall report promptly to the Central Valley Water Board any material change or proposed change in the character, location, or volume of the discharge.

13. In the event that the Discharger reports toxic chemical release data to the State Emergency Response Commission (SERC) pursuant to section 313 of the Emergency Planning and Community Right to Know Act (42 U.S.C. § 11023), the Discharger shall also report the same information to the Central Valley Water Board within 15 days of the report to the SERC.

14. In the event of any change in control or ownership of the WWTF, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

15. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.

16. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to $10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

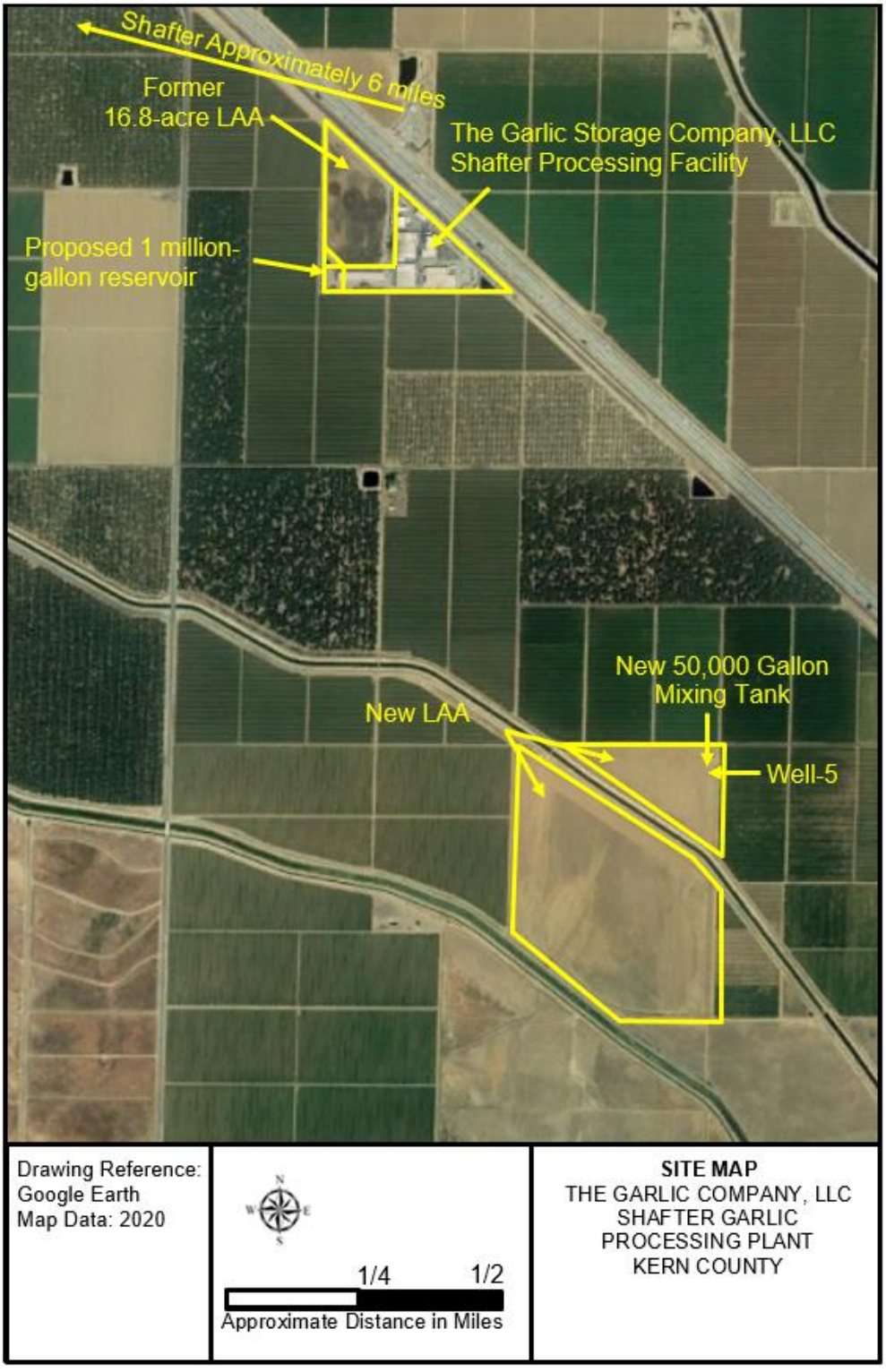
Any person aggrieved by this Central Valley Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m. on the 30th day after the date of this Order; if the 30th day falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions are available on the Internet (at the address below) and will be provided upon request.

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

ATTACHMENTS

Attachment A—Site Map
Attachment B—Facility Map
Attachment C—Land Application Map
Attachment D—Process Flow Diagram
Information Sheet
Standard Provisions and Reporting Requirements (SPRRs), dated 1 March 1991
Monitoring and Reporting Program R5-2020-#### (and attachments thereto)

ATTACHMENT A—SITE MAP



ATTACHMENT B—FACILITY MAP

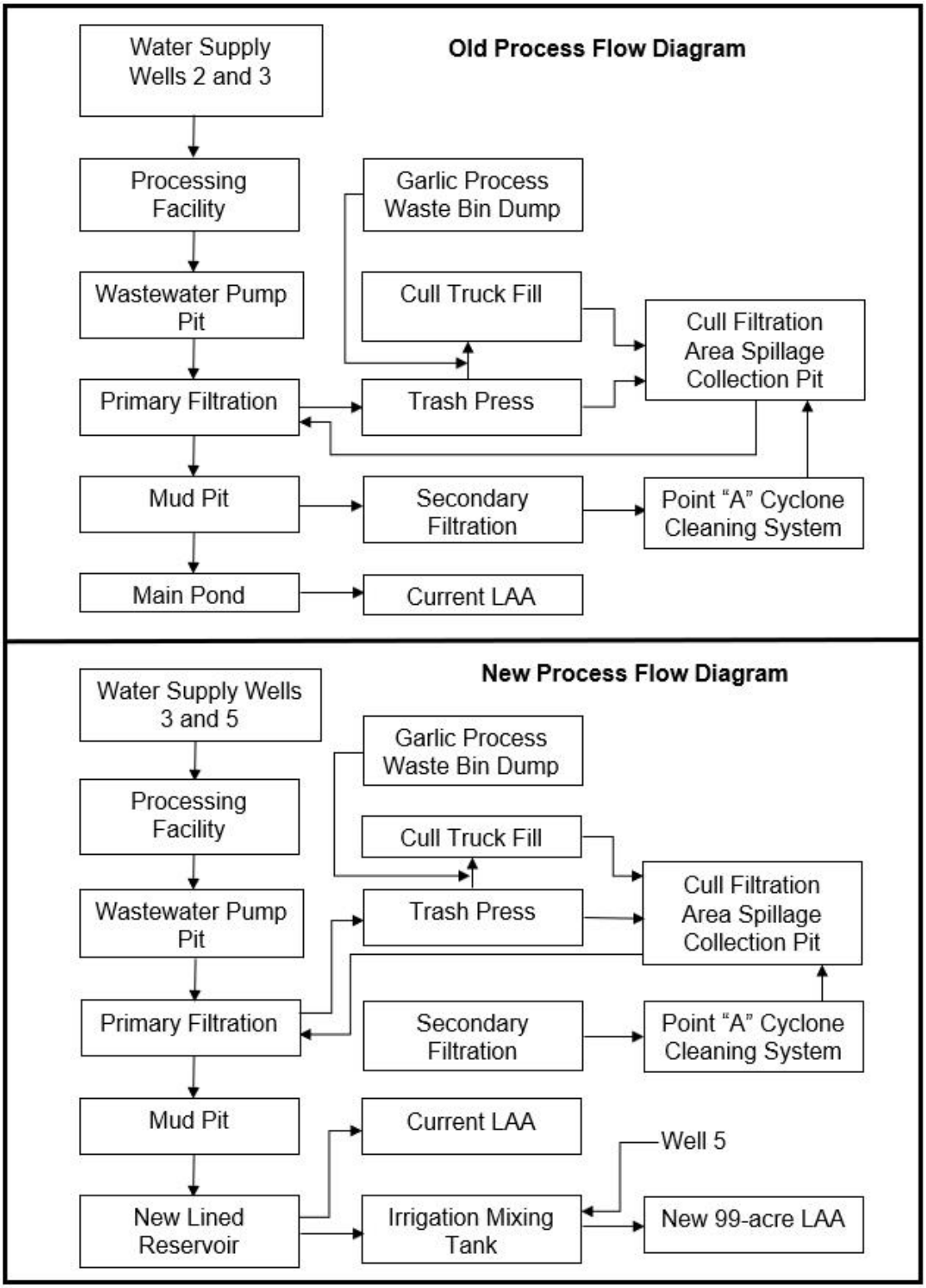
Drawing Reference:
Google Earth
Map Data: © 2020

250 500
Approximate Scale in Feet

FACILITY MAP
GARLIC STORAGE COMPANY, LLC
SHAFTER GARLIC PROCESSING PLANT
KERN COUNTY

ATTACHMENT C—LAND APPLICATION MAP

ATTACHMENT D—PROCESS FLOW DIAGRAM



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

WASTE DISCHARGE REQUIREMENTS ORDER R5-2020-####
FOR
GARLIC STORAGE COMPANY, LLC
SHAFTER GARLIC PROCESSING PLANT
KERN COUNTY

INFORMATION SHEET

BACKGROUND

The Garlic Storage Company, LLC (Garlic Company), Shafter Garlic Processing Plant (Facility) processes and packages fresh garlic, peeled garlic, garlic puree, garlic juice, and pickled garlic. The Facility also processes other vegetables on an as-needed basis. The Facility was regulated by Waste Discharge Requirements (WDRs) Order R5-2013-0150, which authorized a monthly average discharge of 0.083 million gallons per day (mgd) from January through June, a monthly average discharge of 0.125 mgd from July through December, a maximum daily discharge of 0.180 mgd, and a total annual discharge of 25.5 million gallons (0.070 mgd average).

On 7 February 2019, the Discharger submitted a RWD consisting of a Form 200 and amended Technical Report for the Report of Waste Discharge. The RWD proposes a flow increase from 25.5 million gallons per year to 46.96 million gallons per year and the addition of a new “99-acre” LAA located to the south of the Facility, a 50,000 gallon mixing tank, and a 1-million-gallon lined reservoir.

WASTEWATER GENERATION AND DISPOSAL

The Facility consists of a whole garlic processing facility, a garlic puree facility, cold storage unit, storm water pond, and a process wastewater treatment system, including screens and an unlined aerated pond. Wastewater is generated from three non-contact and seven-contact sources. Non-contact process wastewater sources include cold storage, boiler blowdown, and boiler regenerate. The seven contact sources include whole bulb packing, seed cracking, peel plant cracking, peel plant packing, diced/puree plant, pepper process, and cold storage.

Under Order R5-2013-0150 wastewater flowed from a 2,700-gallon wastewater pump pit through primary filtration (0.015” screen) to either the mud separation pit or the trash press. From the trash press, wastewater flowed to the cull truck fill station then to the cull/filtration area spillage collection pit where it is pumped back through the primary filtration screen. From the mud separation pit, wastewater flows to either the main pond for irrigation use or to secondary filtration (0.0059” screen) for Point “A” cyclone cleaning system use (a spray system utilizing screened wastewater and air to remove/control papery garlic skins).

Recently (i.e., approximately over the past year), the Garlic Company constructed a 1-million-gallon lined reservoir, a 50,000-gallon mixing tank, installed a new source water well (Well 5), and initiated discharge to the new LAA area referred to as the "99-Acre LAA." During a 15 January 2019 Central Valley Water Board staff inspection, the Discharger indicated that the former 16.8-acre LAA would be abandoned and the land used for a future Facility expansion.

On 24 May 2019, the Discharger submitted a pond abandonment plan for the Main Pond. The abandonment plan states that Main Pond sediment will be sampled, removed, and ultimately land applied to the 99-acre LAA. After sediment removal, the Main Pond will be backfilled with clean fill material under the supervision of a geotechnical engineer to allow for future Facility expansion

GROUNDWATER CONSIDERATIONS

Groundwater conditions are discussed in Finding 28 through 29.

ANTIDEGRADATION

Antidegradation analysis and conclusions are discussed in Findings 54 through 61 of the Order.

DISCHARGE PROHIBITIONS, EFFLUENT LIMITATIONS, DISCHARGE SPECIFICATIONS, AND PROVISIONS

The Order limits the maximum daily average and annual flow to 218,000 gallons and 46.96 million gallons respectively. The Order sets a cycle average BOD loading limit of 50 lbs/acre/day to the LAA and limits the instantaneous BOD load to 150 lbs/acre/day. The Order carries over a performance-based effluent limitation for EC, which states that the 12-month rolling average effluent EC shall not exceed the 12-month flow-weighted average EC of the source water plus 600 µmhos/cm. Furthermore, the Order includes a Provision requiring submittal of a Salinity Reduction Study Work Plan.

MONITORING REQUIREMENTS

Section 13267 of the California Water Code authorizes the Central Valley Water Board to require monitoring and technical reports as necessary to investigate the impact of waste discharges on waters of the State. Water Code Section 13268 authorizes assessment of civil administrative liability where appropriate. The Order includes influent, effluent, disposal field, overflow basin, solids, and water supply monitoring requirements. This monitoring is necessary to characterize the discharge and evaluate compliance with the requirements and specifications in the Order.

SALT AND NITRATE CONTROL PROGRAMS REGULATORY CONSIDERATIONS

As part of the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative, the Central Valley Water Board adopted Basin Plan amendments (Resolution R5-2018-0034) incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting. On 16 October 2019, the State Water Resources Control Board adopted Resolution No.

2019-0057 approving the Central Valley Water Board Basin Plan amendments and also directed the Central Valley Water Board to make targeted revisions to the Basin Plan amendments within one year from the approval of the Basin Plan amendments by the Office of Administrative Law. The Office of Administrative Law approved the Basin Plan amendments on 15 January 2020 (OAL Matter No. 2019-1203-03).

Pursuant to the Basin Plan amendments, dischargers will receive a Notice to Comply with instructions and obligations for the Salt Control Program within one year of the effective date of the amendments (17 January 2020). Upon receipt of the Notice to Comply, the Discharger will have no more than six months to inform the Central Valley Water Board of their choice between Option 1 (Conservative Option for Salt Permitting) or Option 2 (Alternative Option for Salt Permitting). The level of participation required of dischargers whose discharges do not meet stringent salinity requirements will vary based on factors such as the amount of salinity in the discharge, local conditions, and type of discharge. For the Nitrate Control Program, the Facility falls within Groundwater Sub-Basin 5-22.14 (Kern County Poso), a Priority 2 Basin. Notices to Comply for Priority 2 Basins will be issued within two to four years after the effective date of the Nitrate Control Program. The CV-SALTS initiative will result in regulatory changes that will be implemented through conditional prohibitions and modifications to many WDRs regionwide, including the WDRs that regulate discharges from the Facility. More information regarding the CV-SALTS regulatory planning process can be found at the following link: https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/

REOPENER

The conditions of discharge in the Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. The Order sets limitations based on the information provided thus far. If applicable laws and regulations change, or once new information is obtained that will change the overall discharge and its potential to impact groundwater, it may be appropriate to reopen the Order.

LEGAL EFFECT OF RESCISSION OF PRIOR WDRS OR ORDERS ON EXISTING VIOLATIONS

The Central Valley Water Board's rescission of prior waste discharge requirements and/or monitoring and reporting orders does not extinguish any violations that may have occurred during the time those waste discharge requirements or orders were in effect. The Central Valley Water Board reserves the right to take enforcement actions to address violations of prior prohibitions, limitations, specifications, requirements, or provisions of rescinded waste discharge requirements or orders as allowed by law.